



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/723,104	11/27/2000	John Burke	65485-0037	5328

10291 7590 11/26/2002
RADER, FISHMAN & GRAUER PLLC
39533 WOODWARD AVENUE
SUITE 140
BLOOMFIELD HILLS, MI 48304-0610

EXAMINER

KOCH, GEORGE R

ART UNIT	PAPER NUMBER
----------	--------------

1734

8

DATE MAILED: 11/26/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/723,104

Applicant(s)

BURKE, JOHN

Examiner

George R. Koch III

Art Unit

1734

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 September 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-8 and 14-16 is/are allowed.
- 6) ☒ Claim(s) 9-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 16 September 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on 9-16-2002 have been approved. A proper drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The correction to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith (US Patent 4,705,587) in view of Wildes (US Patent 6,323,661, filed on May 1, 2000).

Applicant claims a system including a compressor that applies pressure to an assembly having first and second surfaces, the first and second surfaces intended to be

conductive and anisotropic material is intended to be disposed in between the surfaces, a curing means, which is intended to cure the anisotropic material, and a meter configured to measure an electrical characteristic, generate a feedback signal corresponding to the electrical characteristic, and allowing the feedback to be used to selectively adjust the compressor. No structure is claimed that would exclude the feedback signal being read by the user and the selective adjustment being performed by the user.

Smith discloses a system capable of connecting a first and second conductive surface, comprising a compressor (item 38) and means for curing (item 20, 26). Smith does not disclose a meter for measuring an electric characteristic of the bond and generating a feedback signal. The compressor is capable of being selectively adjusted by the user by adjusting the nut (item 48, see Figure 1).

Smith does not disclose a meter for characterizing the electrical resistance of an anisotropic bond.

Wildes discloses a meter which can measures the electrical resistance of an anisotropic conductive adhesive (see especially column 2, lines 30-42). Wildes discloses that monitoring the electrical resistance of a bond allow for the elimination of defective parts early in a production line, before incorporation into a greater system (see column 2, lines 16-29), thus reducing production losses. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have incorporated a meter for measuring the resistance of an anisotropic conductive bond as suggested by Wildes in order to reduce production losses in the overall apparatus of

Smith. This feedback signal is capable of being used by the user to selectively adjust the compressor.

As to claim 10, Smith discloses a heater and a thermode (column 2, lines 34-49).

As to claim 11, the electrical characteristic measured by Wildes meter is resistance.

As to claim 12, Smith in view of Wildes is capable of being programmed to perform the claimed operation.

As to claim 13, the electrical characteristic measured by Wildes meter is resistance.

Allowable Subject Matter

5. Claims 1-8 and 14-16 are allowed.

6. The following is an examiner's statement of reasons for allowance: With regard to claims 1-8, in a method of connecting a first and a second conductive surface including steps of placing an anisotropic material between first and second substrates, curing the anisotropic material, and compressing the assembly, the prior art does not disclose the step of monitoring an electrical characteristic of the bond during at least one of the compressing and curing steps and generating a feedback signal corresponding to the electrical characteristic. Similarly, with regard to claims 14-16, in a method of connecting a first and a second conductive surface including steps of placing an anisotropic material between first and second substrates to form an assembly,

Art Unit: 1734

heating the anisotropic material to cure the anisotropic material, and compressing the assembly to form a conductive bond between the first and second conductive surfaces via the anisotropic material, the prior art does not disclose the limitation of monitoring the resistance of the conductive bond during at least one of the compressing and heating steps and generating a feedback signal corresponding to the resistance, and reducing the pressure applied during the compressing step to a holding level when the feedback signal indicates that the electrical characteristic has reached a predetermined threshold.

US patent 6,336,990 and US Patent 6,077,382 disclose that it is known to use a method for manufacturing a bonded substrate wherein the first and second conductive surfaces are bonded by use of an anisotropic material during the compressing or heating steps. The references provide support for controlling the temperature and pressure of the bonding operation by the apparatus. However, these references do not disclose of either a step of measuring the electric characteristics of the bond or a mechanism capable of measuring the electrical characteristics of the bond. Similarly, US Patent 6,323,661 to Wildes merely discloses using a meter to measuring the electrical characteristic, but make no disclosure of monitoring the electrical characteristic during bonding, although the meter is capable of being used in such a fashion.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

7. Applicant's arguments with respect to claims 9-13 have been considered but are moot in view of the new ground(s) of rejection. Further support for the new limitations has been cited from the original references. Applicants arguments as they apply to the modified rejection have been addressed.

8. In response to applicant's argument that Smith and Wildes do not disclose that the bonding material is anisotropic material, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). In this case, the system created by the combination of Smith and Wildes is capable of bonding the materials claimed.

9. In response to applicants arguments that Smith and Wildes do not disclose that the feedback signal is used to selectively adjust the compressor, it is noted that the compressor of Smith is capable of selective adjustment by the user, and that no

structure is cited in the claims that would prevent the selective adjustment step from being performed by the user.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George R. Koch III whose telephone number is (703) 305-3435 (TDD only). If the applicant cannot make a direct TDD-to-TDD call, the applicant can communicate by calling the Federal Relay Service at 1-800-877-8339 and

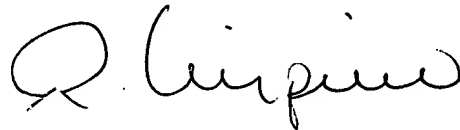
giving the operator the above TDD number. The examiner can normally be reached on M-Th 10-7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (703) 308-3853. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7718 for regular communications and (703) 305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



George R. Koch III
November 23, 2002



RICHARD CRISPINO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700